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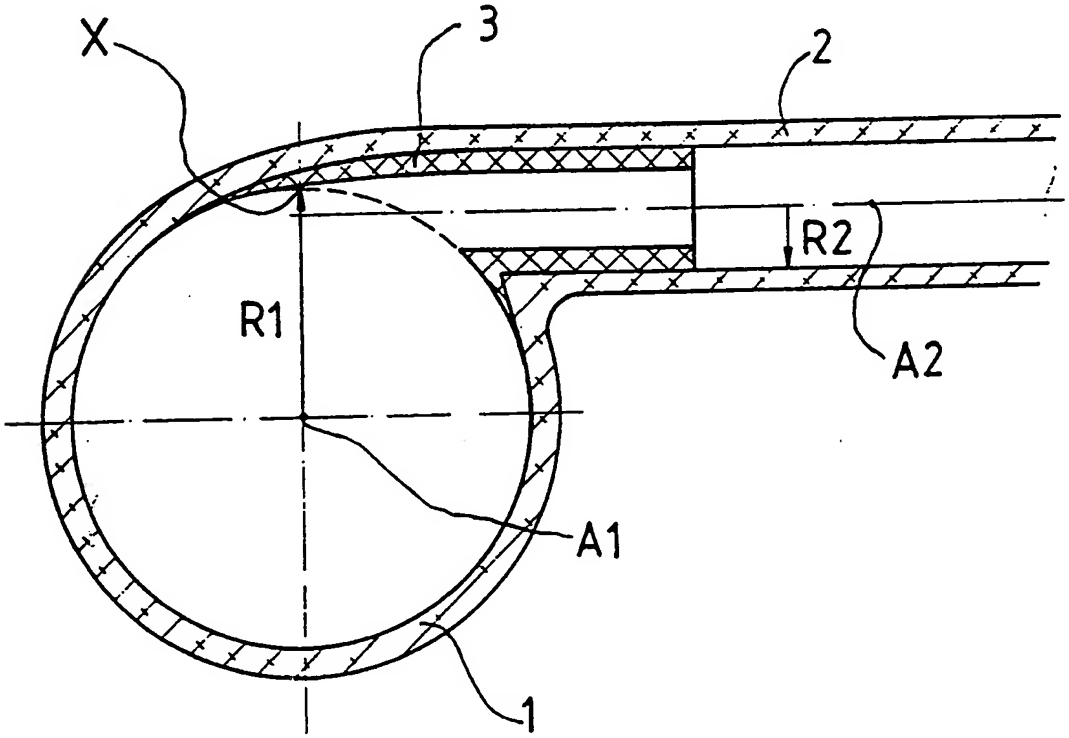
(58) Field of search
F2G
Selected US specifications from IPC sub-class F16L

(54) A branched hose, especially a radiator hose for a motor vehicle

(57) A hose formed from rubber or rubber-like plastics materials which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose, in which the branch hose (2) is attached to the main hose (1) to such an eccentric extent that its central axis (A2) intersects the associated radius (R1) of the inside wall of the main hose (1) in the region of its outer extremity (X), the radius (R1) extending at right angles to the central axis (A2).



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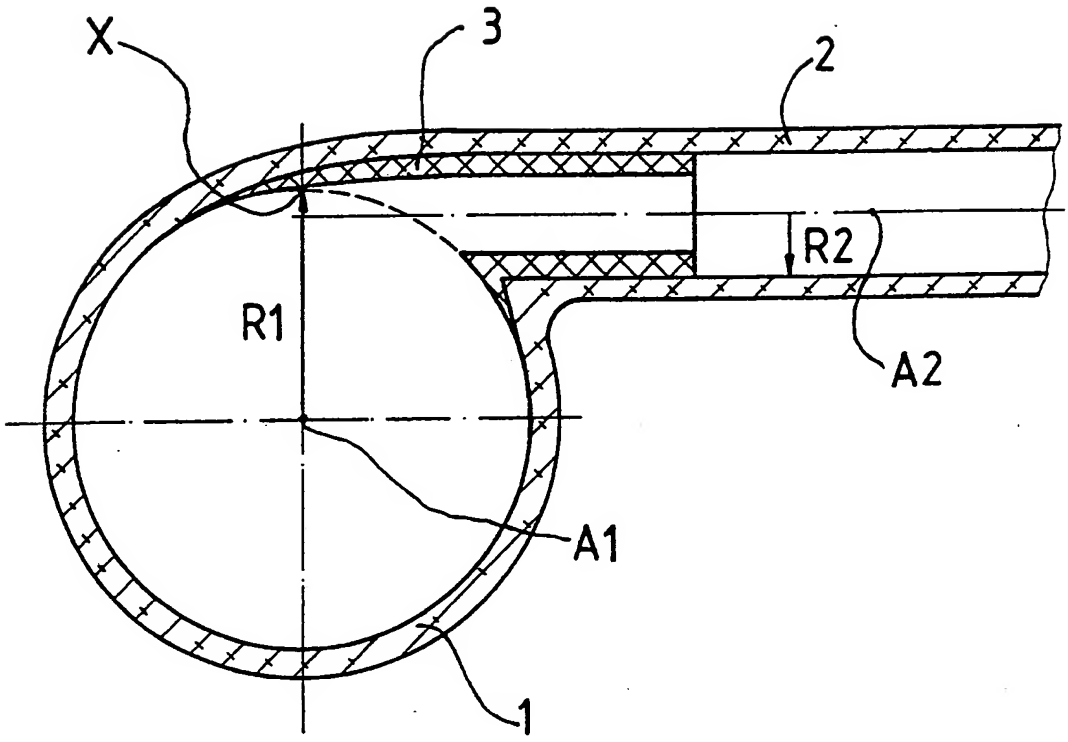
X
3
2
R2
R1
A2
A1
1

A hose, especially a radiator hose for a motor vehicle

The present invention relates to a hose formed from rubber or rubber-like plastics materials - especially a radiator hose for a motor vehicle - which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose. Numerous embodiments of such hoses are known, their common factor being that the branch hose in each case is attached to the main hose centrally, that is to say, it is attached to the main hose in such a manner that its central axis intersects the central axis of the main hose. This T-shaped arrangement with the branch hose may give rise to installation problems if it is necessary to attach the branch hose to the highest or lowest point of the cross-section of the main hose because, on the one hand, it is to serve as a vent hose or as a hose for discharging sediments which settle at the bottom of the main hose and because, on the other hand, there is no space available either above or below the main hose for an angular configuration of the branch hose.

It is an object, therefore, of the invention to provide a hose junction so that the above-mentioned installation problems do not arise.

According to the present invention there is provided a hose formed from rubber or rubber-like plastics materials which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose, in which the branch hose is attached to th main hose to such an ccentric ext nt that its central axis intersects the associat d radius of the inside wall of the main hose in the region of

its outer extremity, the radius extending at right angles to the central axis.

It will thus be seen that the branch hose therefore is attached tangentially relative to the circumferential line of the main hose. In preferred embodiments of the invention, the inside width of the branch hose is, at most, half as large as the inside width of the main hose, and the region of attachment for the branch hose extends from the upper or lower vertical point of the cross-section of the main hose, at most over the upper or lower half of the main hose. In addition, it may be advantageous to provide the branching-off portion or junction region with a shaped piece of plastics material or rubber which is moulded to fit therein and spans the junction between the two hoses, such a shaped piece being materially joined to the inside wall both of the main hose and of the branch hose. This shaped piece of plastics material or rubber may advantageously act as a flow throttle, due to the fact that it has a smaller inside width than the branch hose.

The accompanying drawing illustrates the present invention with reference to one embodiment.

The branch hose 2 is attached to the illustrated main hose 1 in such a manner that its central axis A2 intersects the associated radius R1 of the inside wall of the main hose 1 in the region of its outer extremity X, the radius R1 extending at right angles to the central axis A2. This arrangement ensures that the branch hose is thereby attached at the highest point of th main hose and can thus serve, for example, to remove air from th main hose. In such a case, the inside radius R2 of the branch hose 2 is clearly small r

than half the inside radius R1 of the main hose 1, and the central axis A2 of the branch hose 2 intersects the associated inside radius R1 of the main hose 1 in the region of its outer extremity X. This point of intersection is removed from the outer extremity X of the radius R1 by a distance corresponding to less than the length of the radius R2 in the direction of the central axis A1 of the main hose.

Both for technical reasons relating to manufacture and also in order to improve the intrinsic properties, a shaped piece of plastics material or rubber 3 is inserted into the branching-off region of the illustrated hose; in the illustrated embodiment, the shaped piece 3 has a smaller inside width than the branch hose, so it acts as a flow throttle.

CLAIMS

1. A hose formed from rubber or rubber-like plastics materials which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose, in which the branch hose is attached to the main hose to such an eccentric extent that its central axis intersects the associated radius of the inside wall of the main hose in the region of its outer extremity, the radius extending at right angles to the central axis.

2. A hose as claimed in claim 1, wherein the length of the inside radius of the branch hose is not greater than half the length of the inside radius of the main hose.

3. A hose as claimed in claim 1 or 2, wherein the point of intersection between the central axis of the branch hose and the associated radius of the main hose is removed from the extremity of the inside radius by a distance corresponding, at most, to the length of the inside radius.

4. A hose as claimed in any of claims 1 to 3, wherein the branching-off portion contains a shaped piece of plastics material or rubber which spans the junction between the main hose and the branch hose and is materially connected to the inside wall both of the main hose and of the branch hose.

5. A hose as claimed in claim 4, wherein the shaped piece of plastics material or rubber has a smaller inside width than the branch hose.

6. A hose formed from rubber or rubber-like plastics materials, substantially as hereinbefore described with reference to the accompanying drawing.

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